


IN THE CLAIMS:

1. (Amended) An isolated nucleic acid molecule corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein said nucleic acid molecule includes a sequence according to SEQ ID NO: 1, a functional part of SEQ ID NO: 1, or a sequence that is substantially homologous to SEQ ID NO: 1.

 2. (Amended) An isolated nucleic acid molecule corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein said nucleic acid molecule includes a sequence according to SEQ ID NO: 3, a functional part of SEQ ID NO: 3, or a sequence that is substantially homologous to SEQ ID NO: 3.

3. (Amended) A vector for transformation of plant cells, wherein said vector contains a nucleic acid sequence corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein the sequence contains SEQ ID NO: 1, contains a functional part of SEQ ID NO: 1, or contains a sequence that is substantially homologous to SEQ ID NO: 1.

4. (Amended) A vector for transformation of plant cells, wherein said vector contains a nucleic acid sequence corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein the sequence contains SEQ ID NO: 3, contains a functional part of SEQ ID NO: 3, or contains a sequence that is substantially homologous to SEQ ID NO: 3.

De 5. (Twice amended) A vector for transformation of plant cells, wherein said vector contains a nucleic acid sequence according to SEQ ID NO: 23, which is SEQ ID NO: 1 altered to contain an 81 bp insertion, such that the deduced amino acid sequence of the encoded protein contains the repeated sequence SHAGLFNLCVVVLI VNSRLIENLMK according to SEQ ID NO: 25, where the spacing and identity of the G at position 4, the N at position 7, the V at position 10, the V at position 11, the L at position 13, the I at position 14, the N at position 17, the R at position 19, the L at position 20, the E at position 23, the N at position 24, the L at position 25 and the K at position 27 are identical or are replaced by conserved substitutions.

6. (Twice amended) The vector according to claim 3, wherein said sequence is present in said vector in a sense orientation.

8. (Amended) Plasmid pDGATcDNA having accession number ATCC PTA-989.

9. (Amended) Plasmid pDGATgene having accession number ATCC PTA-988.

De 10. (Amended) A plant having a genome, wherein the genome contains an introduced nucleotide sequence corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein the sequence is SEQ ID NO: 1, an introduced functional part of SEQ ID NO: 1, or an introduced sequence that is substantially homologous to SEQ ID NO: 1.

11. (Amended) A plant seed having a genome, wherein said genome contains an introduced nucleotide sequence corresponding to a polypeptide having diacylglycerol acyltransferase activity, wherein the sequence is SEQ ID NO: 1, an introduced functional part of SEQ ID NO: 1, or an introduced sequence that is substantially homologous to SEQ ID NO: 1.

De 12. (Twice amended) A genetically transformed plant, wherein said genome has been transformed by a vector according to claim 3 or claim 4.

13. (Twice amended) A genetically transformed plant seed, wherein said seed has been transformed by a vector according to claim 3 or claim 4.

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14. (Twice amended) The plant seed of Claim 11, wherein the plant seed exhibits an altered oil seed oil content compared to an average of a statistically-significant number of seeds of untransformed plants of the same genotype grown in identical conditions at the same time.

15. (Twice amended) The plant seed of Claim 11, wherein the plant seed exhibits an altered diacylglycerol content in its seed oil compared to an average of a statistically-significant number of seeds of untransformed plants of the same genotype grown in identical conditions at the same time.

16. (Twice amended) The plant seed of Claim 11, wherein the plant seed exhibits a seed oil with an altered fatty acyl composition compared to an average of a statistically-significant number of seeds of a untransformed plant of the same genotype grown in identical conditions at the same time.

17. (Twice amended) The plant of Claim 10, wherein the plant seed exhibits an enhanced biomass compared to an average of a statistically-significant number of genomically-unmodified plants of the same genotype grown in identical conditions at the same time.

18. (Twice amended) The plant seed of Claim 11, wherein the plant seed exhibits an enhanced biomass compared to an average of a statistically-significant number of seeds of genomically-unmodified plants of the same genotype grown under identical conditions at the same time.

19. (Amended) A method of producing transgenic plants comprising:
introducing a nucleotide sequence into a genome of a plant;
wherein said nucleotide sequence introduced into said genome corresponds to a polypeptide
having diacylglycerol acyltransferase activity, wherein the sequence is SEQ ID NO: 1 or
SEQ ID NO: 3, a functional part of SEQ ID NO: 1 or SEQ ID NO: 3, or a sequence that is
substantially homologous to SEQ ID NO: 1, SEQ ID NO: 3, a part of SEQ ID NO: 1 or
SEQ ID NO: 3.

20. (Amended) The method according to claim 19, wherein said plant is a member of
the Brassicaceae.

21. (Amended) The method according to claim 19, wherein said plant is selected from
the group consisting of *Arabidopsis thaliana*, borage (*Borago* spp.), Canola, castor (*Ricinus
communis*), cocoa bean (*Theobroma cacao*), corn (*Zea mays*), cotton (*Gossypium* spp), *Crambe*
spp., *Cuphea* spp., flax (*Linum* spp.), *Lesquerella* and *Limnanthes* spp., Linola, nasturtium
(*Tropaeolum* spp.), *Oenothera* spp., olive (*Olea* spp.), palm (*Elaeis* spp.), peanut (*Arachis* spp.),
rapeseed, safflower (*Carthamus* spp.), soybean (*Glycine* and *Soja* spp.), sunflower (*Helianthus*
spp.), tobacco (*Nicotiana* spp.), *Vernonia* spp., wheat (*Triticum* spp.), barley (*Hordeum* spp.),
rice (*Oryza* spp.), oat (*Avena* spp.) sorghum (*Sorghum* spp.), rye (*Secale* spp.) and other members
of the plant family *Gramineae* not listed.

Please add the following new claims:

24. (New) The isolated nucleic acid molecule of claim 1, wherein the sequence is SEQ
ID NO: 1.

25. (New) The isolated nucleic acid molecule of claim 2, wherein the sequence is SEQ
ID NO: 3.

26. (New) The vector of claim 3, wherein the nucleic acid sequence is SEQ ID NO: 1.
27. (New) The vector of claim 4, wherein the nucleic acid sequence is SEQ ID NO: 3.
28. (New) The plant of claim 10, wherein the sequence is SEQ ID NO: 1.
29. (New) The plant seed of claim 11, wherein the sequence is SEQ ID NO: 1.
30. (New) The method according to claim 19, wherein the nucleotide sequence is SEQ ID NO: 1.
31. (New) The method according to claim 23, wherein the nucleic acid sequence is SEQ ID NO: 1.
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